

PATENT
Docket No. 373722002400

pa-THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Anthony J. TICKNOR et al.

Serial No.: 10/085,885

Filing Date: February 27, 2002

For: MICROFLUIDIC CONTROL FOR
WAVEGUIDE OPTICAL SWITCHES,
VARIABLE ATTENUATORS, AND
OTHER OPTICAL DEVICES

Examiner: To Be Assigned

Group Art Unit: 2874

**PROSECUTION BY ASSIGNEE AND POWER OF ATTORNEY
UNDER 37 C.F.R. § 3.71**

BOX MISSING PARTS

Assistant Commissioner for Patents
Washington, D.C. 20231

COPY OF PAPERS
ORIGINALLY FILED

Dear Sir:

Lightwave Microsystems Corporation, the assignee of the entire right, title and interest in this patent application, under 37 C.F.R. § 3.71 hereby appoints:

Lisa A. Amii (Reg No. 48,199)
Mehran Arjomand (Reg No. 48,231)
Erwin J. Basinski (Reg No. 34,773)
Richard R. Batt (Reg No. 43,485)
Jonathan Bockman (Reg No. 45,640)
Barry E. Bretschneider (Reg No. 28,055)
Nicholas Buffinger (Reg No. 39,124)
Mark R. Carter (Reg No. 39,131)
Peng Chen (Reg No. 43,543)
Thomas Chuang (Reg No. 44,616)
Cara M. Coburn (Reg No. 46,631)
Raj S. Davé (Reg No. 42,465)
David Devernock (Reg No. P-50,128)
Stephen C. Durant (Reg No. 31,506)
Elisabeth M. Evertsz (Reg No. 50,304)
David L. Fehrman (Reg No. 28,600)

Randolph Ted Apple (Reg No. 36,429)
Laurie A. Axford (Reg No. 35,053)
Shantanu Basu (Reg No. 43,318)
Vincent J. Belusko (Reg No. 30,820)
Kimberly A. Bolin (Reg No. 44,546)
Tyler S. Brown (Reg No. 36,465)
A. Randall Camacho (Reg No. 46,595)
Robert K. Cerpa (Reg No. 39,933)
Alex Chartove (Reg No. 31,942)
Thomas E. Ciotti (Reg No. 21,013)
Matthew M. D'Amore (Reg No. 42,457)
Peter Davis (Reg No. 36,119)
Karen B. Dow (Reg No. 29,684)
Richard R. Eckman (Reg No. 42,504)
Carolyn A. Favorito (Reg No. 39,183)
Hector Gallegos (Reg No. 40,614)

Thomas George (Reg No. 45,740)
Debra J. Glaister (Reg No. 33,888)
Bruce D. Grant (Reg No. 47,608)
Douglas G. Hodder (Reg No. 41,840)
Charles D. Holland (Reg No. 35,196)
Arthur S. Hsieh (Reg No. 48,247)
Wayne Jaeschke, Jr. (Reg No. 38,503)
Parisa Jorjani (Reg No. 46,813)
Richard C. Kim (Reg No. 40,046)
Lawrence B. Kong (Reg No. P49,043)
Glenn Kubota (Reg No. 44,197)
Michael J. Mauriel (Reg No. 44,226)
Gladys H. Monroy (Reg No. 32,430)
Kate H. Murashige (Reg No. 29,959)
Martin M. Noonan (Reg No. 44,264)
Phillip Reilly (Reg No. 41,415)
Robert E. Scheid (Reg No. 42,126)
Terri Shieh-Newton (Reg No. 47,081)
Kevin R. Spivak (Reg No. 43,148)
Thomas L. Treffert (Reg No. P48,279)
Michael R. Ward (Reg No. 38,651)
Todd W. Wight (Reg No. 45,218)
Frank Wu (Reg No. 41,386)
Peter J. Yim (Reg No. 44,417)
Karen R. Zachow (Reg No. 46,332)

Deborah S. Gladstein (Reg No. 43,636)
Kenneth R. Glick (Reg No. 28,612)
Johney U. Han (Reg No. 45,565)
Alan S. Hodes (Reg No. 38,185)
Kelman P. Howard (Reg No. P48,999)
Jill A. Jacobson (Reg No. 40,030)
Madeline I. Johnston (Reg No. 36,174)
Ararat Kapouytian (Reg No. 40,044)
Cameron A. King (Reg No. 41,897)
Kawai Lau (Reg No. 44,461)
Rimas T. Lukas (Reg No. 46,451)
Robert S. McArthur (Reg No. 45,674)
Philip A. Morin (Reg No. P-45,926)
Mabel Ng (Reg No. P48,922)
Catherine M. Polizzi (Reg No. 40,130)
Robert Saltzberg (Reg No. 36,910)
Debra A. Shetka (Reg No. 33,309)
David Smith (Reg No. 39,839)
Stanley H. Thompson (Reg No. 45,160)
Brenda J. Wallach (Reg No. 45,193)
E. Thomas Wheelock (Reg No. 28,825)
Eric Witt (Reg No. 44,408)
David T. Yang (Reg No. 44,415)
George C. Yu (Reg No. 44,418)

all of Morrison & Foerster LLP, 755 Page Mill Road, Palo Alto, California 94304-1018, telephone (650) 813-5600, to prosecute this application and transact all matters in the United States Patent and Trademark Office connected therewith, said appointment to be to the exclusion of the inventors and their attorneys in accordance with the provisions of 37 C.F.R. § 3.71 provided that if any one of said attorneys or agents ceases being affiliated with the law firm of Morrison & Foerster LLP as partner, employee or of counsel, such attorney's or agent's appointment as attorney or agent and all powers derived therefrom shall terminate on the date such attorney or agent ceases being so affiliated.


Please direct all written communications relative to this application to:

Charles D. Holland
Morrison & Foerster LLP
755 Page Mill Road
Palo Alto, California 94304-1018

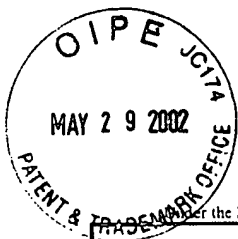
Please direct all telephone communications to Charles D. Holland at (650) 813-5832.

Lightwave Microsystems Corporation
a Delaware corporation

Dated: May 8, 2002



Name: Martin Lundie
Title: Vice President and CFO
Address: 2911 Zanker Road
San Jose, California 95134



PTO/SB/96 (08-00)

Approved for us through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Anthony J. TICKNOR et al.

Application No./Patent No.: 10/085,885

Filed/Issue Date: February 27, 2002

Entitled: MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES

Lightwave Microwave Corporation, a

Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
The extent (by, percentage) of its ownership interest is _____ %

in the patent application/patent identified above by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
2. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☐ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

May 8, 2002.
Date

Martin Lundie

Signature

Vice President and CFO

Title

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Attorney Docket No.: 373722002400

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PATENT & TRADEMARK OFFICE

Lightwave Microsystems

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#3 P. 6

Applicant/Patentee: Anthony J. TICKNOR et al.

Docket No.: 373722002400

Serial No./Patent No.: 10/085,885

Client Reference: A063

Filed on/Issued: February 27, 2002

For: MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES

VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS
37 C.F.R. §§ 1.9 AND 1.27 — SMALL BUSINESS CONCERN

COPY OF PAPERS
ORIGINALLY FILED

I hereby declare that I am

- ☐ the owner of the small business concern identified below:
☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: Lightwave Microsystems Corporation

ADDRESS OF CONCERN: 2911 Zanker Road, San Jose, California 95134

I hereby declare that the above identified small business concern qualifies as a small business concern pursuant to 37 C.F.R. § 1.27 and 13 C.F.R. § 121.802, for purposes of paying reduced fees to the United States Patent and Trademark Office, and the number of employees of the concern, including those of its affiliates, does not exceed 500 persons.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES by inventor(s) Anthony J. TICKNOR, John T. KENNEY, Giacomo VACCA, Dudley A. SAVILLE, and Ken G. PURCHASE described in:

- ☐ the specification filed herewith with title as listed above.
☒ the application identified above.
☐ the patent identified above.

If the rights held by the above identified business concern are not exclusive, each individual, concern or organization having rights in the invention qualify for small entity status, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor if that person made the invention, or by any concern which would not qualify as a small business concern under 37 C.F.R. § 1.27, or a nonprofit organization under 37 C.F.R. § 1.27.

Each person, concern or organization having any rights in the invention is listed below:

- ☒ no such person, concern, or organization exists.
☐ each such person, concern or organization is listed below.

NAME	ADDRESS	TYPE
		<input type="checkbox"/> Individual <input type="checkbox"/> Small Business Concern <input type="checkbox"/> Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification or any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: Martin Lundie
TITLE OF PERSON IF OTHER THAN OWNER: Vice President and CFO
ADDRESS OF PERSON SIGNING: 2911 Zanker Road, San Jose, California 95134

SIGNATURE: _____

DATE: _____

PATENT
Docket No. 373722002400
Client Ref. A063

DECLARATION FOR UTILITY PATENT APPLICATION

AS BELOW-NAMED INVENTORS, WE HEREBY DECLARE THAT:

Our residences, post office addresses, and citizenships are as stated below next to our names.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled: MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES, the specification of which is attached hereto unless the following box is checked:

☒ was filed on February 27, 2002 as United States Application Serial No.: 10/085,885.

WE HEREBY STATE THAT WE HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

We acknowledge the duty to disclose information which is material to the patentability as defined in 37 C.F.R. § 1.56.

We hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Application No.	Country	Date of Filing (day/month/year)	Priority Claimed?
			<input type="checkbox"/> Yes <input type="checkbox"/> No

We hereby claim benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

Application Serial No.	Filing Date
60/272,337	02/28/01

We hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of

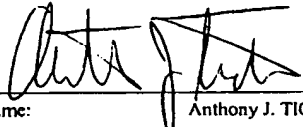
35 U.S.C. § 112, we acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

Application Serial No.	Filing Date	Status
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

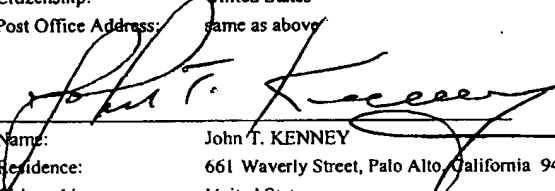
07-May-02

Date


 Name: Anthony J. TICKNOR
 Residence: 10952 Barranca Drive, Cupertino, California 95014
 Citizenship: United States
 Post Office Address: same as above

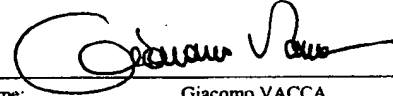
5-8-02

Date


 Name: John T. KENNEY
 Residence: 661 Waverly Street, Palo Alto, California 94301
 Citizenship: United States
 Post Office Address: same as above

5/7/02

Date


 Name: Giacomo VACCA
 Residence: 862 Arbor Road, Menlo Park, California 94025
 Citizenship: ~~United States~~ Italian GV 5/7/02
 Post Office Address: same as above

Date

Name: Dudley A. SAVILLE
 Residence: 244 Dodds La., Princeton, New Jersey 08540
 Citizenship: United States
 Post Office Address: same as above

5/7/02

Date


 Name: Ken G. PURCHASE
 Residence: 179 Sherland Avenue, Mountain View, California 94043
 Citizenship: United States
 Post Office Address: same as above

Attorney Docket No.: 373722002400

ASSIGNMENT
JOINT

COPY

THIS ASSIGNMENT, by Anthony J. TICKNOR, John T. KENNEY, Giacomo VACCA, Dudley A. SAVILLE, and Ken G. PURCHASE (hereinafter referred to as the assignors), residing at 10952 Barranca Drive, Cupertino, California 95014, 661 Waverly Street, Palo Alto, California 94301, 862 Arbor Road, Menlo Park, California 94025, 244 Dodds La., Princeton, New Jersey 08540 and 179 Sherland Avenue, Mountain View, California 94043, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES, set forth in an application for Letters Patent of the United States, bearing Serial No. 10/085,885 and filed on February 27, 2002; and

WHEREAS, Lightwave Microsystems Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 2911 Zanker Road, San Jose, California 95134 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

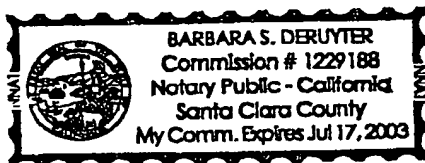
AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

Attorney Docket No.: 373722002400

Date 5/7/02Giacomo Vacca
Giacomo VACCA**COPY**STATE OF California
COUNTY OF Santa Clara) ss.

BEFORE ME, the undersigned authority, on this 7th day of May, 2002, personally appeared Giacomo Vacca known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

[seal]

Barbara S. Deruyter
Notary PublicMy Commission Expires: July 17, 2003

Attorney Docket No.: 373722002400

Date

Dudley A. SAVILLE

COPY

STATE OF

)

) ss.

COUNTY OF

)

BEFORE ME, the undersigned authority, on this _____ day of _____, 2002, personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

[seal]

Notary Public

My Commission Expires:

Attorney Docket No.: 373722002400

Date

5/7/02

Ken G. PURCHASE

COPYSTATE OF California)
COUNTY OF Santa Clara) ss.

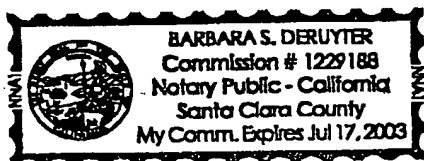
BEFORE ME, the undersigned authority, on this 7th day of May, 2002, personally appeared Ken G. Purchase known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

Notary Public

My Commission Expires:

July 17, 2003

[seal]



Attorney Docket No.: 373722002400

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

07-May-02
Date

Anthony J. TICKNOR
Anthony J. TICKNOR

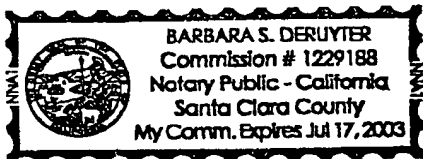
COPY

STATE OF California,
COUNTY OF Santa Clara ss.

BEFORE ME, the undersigned authority, on this 7th day of May, 2002, personally appeared Anthony J. Ticknor known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

Barbara S. Deruyter
Notary Public
My Commission Expires: July 17, 2003

[seal]



Attorney Docket No.: 373722002400

5-8-02
Date

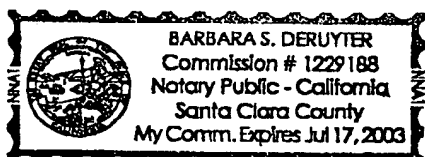
John T. KENNEY

COPYSTATE OF California)
COUNTY OF Santa Clara) ss.

BEFORE ME, the undersigned authority, on this 8th day of May, 2002, personally appeared John T. Kenney known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

Barbara S. deRuyter
Notary Public
My Commission Expires: July 17, 2003

[seal]



PATENT
Docket No. 373722002400
Client Ref. A063

DECLARATION FOR UTILITY PATENT APPLICATION

AS BELOW-NAMED INVENTORS, WE HEREBY DECLARE THAT:

Our residences, post office addresses, and citizenships are as stated below next to our names.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled: MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES, the specification of which is attached hereto unless the following box is checked:

☒ was filed on February 27, 2002 as United States Application Serial No.: 10/085,885.

WE HEREBY STATE THAT WE HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

We acknowledge the duty to disclose information which is material to the patentability as defined in 37 C.F.R. § 1.56.

We hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Application No.	Country	Date of Filing (day/month/year)	Priority Claimed?
			<input type="checkbox"/> Yes <input type="checkbox"/> No

We hereby claim benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

Application Serial No.	Filing Date
60/272,337	02/28/01

We hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of

35 U.S.C. § 112, we acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

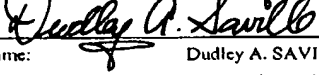
Application Serial No.	Filing Date	Status
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

We hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date _____ Name: Anthony J. TICKNOR
Residence: 10952 Barranca Drive, Cupertino, California 95014
Citizenship: United States
Post Office Address: same as above

Date _____ Name: John T. KENNEY
Residence: 661 Waverly Street, Palo Alto, California 94301
Citizenship: United States
Post Office Address: same as above

Date _____ Name: Giacomo VACCA
Residence: 862 Arbor Road, Menlo Park, California 94025
Citizenship: United States
Post Office Address: same as above

5-1-2002
Date _____ 
Name: Dudley A. SAVILLE
Residence: 244 Dodds La., Princeton, New Jersey 08540
Citizenship: United States
Post Office Address: same as above

Date _____ Name: Ken G. PURCHASE
Residence: 179 Sherland Avenue, Mountain View, California 94043
Citizenship: United States
Post Office Address: same as above

Attorney Docket No.: 373722002400

ASSIGNMENT
JOINT

COPY

THIS ASSIGNMENT, by Anthony J. TICKNOR, John T. KENNEY, Giacomo VACCA, Dudley A. SAVILLE, and Ken G. PURCHASE (hereinafter referred to as the assignors), residing at 10952 Barranca Drive, Cupertino, California 95014, 661 Waverly Street, Palo Alto, California 94301, 862 Arbor Road, Menlo Park, California 94025, 244 Dodds La., Princeton, New Jersey 08540 and 179 Sherland Avenue, Mountain View, California 94043, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in MICROFLUIDIC CONTROL FOR WAVEGUIDE OPTICAL SWITCHES, VARIABLE ATTENUATORS, AND OTHER OPTICAL DEVICES, set forth in an application for Letters Patent of the United States, bearing Serial No. 10/085,885 and filed on February 27, 2002; and

WHEREAS, Lightwave Microsystems Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 2911 Zanker Road, San Jose, California 95134 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

Attorney Docket No.: 373722002400

Date

Ken G. PURCHASE

COPY

STATE OF

)

) ss.

COUNTY OF

)

BEFORE ME, the undersigned authority, on this _____ day of _____, 2002, personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

Notary Public

My Commission Expires:

[seal]

Attorney Docket No.: 373722002400

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

Date

Anthony J. TICKNOR

COPY

STATE OF

)

) ss.

COUNTY OF

)

BEFORE ME, the undersigned authority, on this _____ day of _____, 2002, personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

Notary Public

My Commission Expires:

[seal]

Attorney Docket No.: 373722002400

Date _____

John T. KENNEY

COPY

STATE OF)
) ss.
COUNTY OF)

BEFORE ME, the undersigned authority, on this _____ day of _____, 2002, personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

[seal]

Notary Public
My Commission Expires:

Attorney Docket No.: 373722002400

Date

Giacomo VACCA

COPY

STATE OF)
) ss.
COUNTY OF)

BEFORE ME, the undersigned authority, on this _____ day of _____, 2002, personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

[seal]

Notary Public
My Commission Expires:

Attorney Docket No.: 373722002400

5-1-2002

Date

Dudley A. Saville
Dudley A. SAVILLE**COPY**STATE OF New Jersey
COUNTY OF Mercer) ss.

BEFORE ME, the undersigned authority, on this 1st day of May, 2002, personally appeared Dudley A. Saville known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same of his own free will for the purposes and consideration therein expressed.

Ivan M. Baber

Notary Public

My Commission Expires:

[seal]

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ORIGINALLY FILED**